IN MEMORIAM: ELISABETTA (BETTY) PIERAZZO (1963-2011)

Elisabetta Pierazzo, Senior Scientist at the Planetary Science Institute, died at her home in Tucson, Arizona, on May 15. She was 47.

Betty was an expert in the area of impact modeling throughout the solar system, as well as an expert on the astrobiological and environmental effects of impacts on Earth and Mars. Her work ranged widely, from providing detailed insights into the Chicxulub impact that caused the extinction of the dinosaurs to putting constraints on the thickness of the ice shell of Jupiter’s moon Europa. She was interested in the rise of life and explored the delivery of organics to planets and Europa by comets as well as the creation of subsurface hydrothermal systems by impacts that may have been favorable sites for life on Mars.

She was also an expert on Meteor Crater in Arizona and made several appearances on national and international broadcasts of programs including National Geographic specials, explaining the formation of this well-known structure. Betty was innovative, rigorous and systematic in her approach to science. She recognized the need for benchmarking and validating the different complex numerical codes to model impact and explosion cratering, organizing and leading a community effort to accomplish this major task. In addition to her science, Betty passionately promoted science education and public outreach. She took time away from her successful research career to teach undergraduates at the University of Arizona, she developed interactive websites and impact rock and meteorite kits for classroom use, as well as created professional development workshops for elementary and middle school science teachers.

Betty arrived in the United States in 1989 from Italy and the following year attended graduate school at the Department of Planetary Sciences at the University of Arizona. She handled the difficulties of living in a foreign country by opening her house and her kitchen to others. She received her Ph.D. in 1997. The quality of her graduate work was recognized by the University of Arizona with the Gerard P. Kuiper Memorial Award. She continued at the University of Arizona as a Research Associate, and in 2002 joined the Planetary Science Institute as a Research Scientist. She was promoted to Senior Scientist in 2007.

Betty was an active member of the planetary community. She served on numerous NASA review panels, was an associate editor of Meteoritics and Planetary Sciences, reviewed papers for numerous scientific journals, served as organizer of workshops and meetings on impact cratering held around the world, and was an organizer of the 2007 Meteoritical Society Meeting held in Tucson, Arizona.

Betty was noted for the intensity with which she approached both life and work. Whether it was in the office, the classroom, on the volleyball court, the soccer field, or dance floor, her enthusiasm and joy in the activity was irresistible. She was cherished by very many people for her staunch friendship and
support. She inspired countless people as a colleague, teacher, mentor and friend. Her life was even more brightened with her marriage to Keith Powell in 2007.

Over the past six months, Betty battled a rare form of cancer. She dealt with it aggressively, and never let it overwhelm her. She was always looking towards the future. In the last week of her life, in the midst of chemotherapy, she was grading class papers, working on research papers, writing reviews and preparing education proposals with her colleagues, all the while finding time to spend precious moments with her family and friends. She was ultimately and suddenly struck down by a pulmonary embolism.

Her loss is great to all those who knew her and worked with her. Hers is a great loss to the Planetary Science Institute and to our profession. We are grateful to her husband, Keith, and to her family for the time she did have with us.

---

DPS 2011 PLANETARY SCIENCE PRIZE WINNERS ANNOUNCED

The Division for Planetary Sciences (DPS) of the American Astronomical Society (AAS) is pleased to announce its 2011 prize winners:

Gerard P. Kuiper Prize for outstanding contributions to the field of planetary science:
William Ward, Southwest Research Institute. Many dynamical processes that are now cornerstones of current theories of how planets form and evolve were originally proposed and evaluated by Bill Ward. His findings have often been far ahead of the thinking in the field at the time of their publication. For example, in 1976, his and A. G. W. Cameron’s proposal that the Moon formed when Earth collided with a Mars-size planet seemed far-fetched to many, as did Ward’s 1986 suggestion that large planets would migrate inward over great distances due to interactions with a gas disk. Today these and other of Ward’s visionary ideas form the foundation for a significant portion of current work in planetary formation and dynamics.

Harold C. Urey Prize for outstanding achievement in planetary research by a young scientist:
Eric B. Ford, University of Florida. Ford displays both a complete mastery of theoretical tools and a deep technical understanding of all observational aspects, enabling him to make theoretical predictions with immediate impact for observers. His pioneering work has demonstrated that strong gravitational scattering among extrasolar planets during their late stages of formation is a key process in establishing their final orbital configuration. In particular, he has shown that the large orbital eccentricities of extrasolar planets, unlike the nearly circular orbits of the planets in our solar system, likely resulted from scattering.

Harold Masursky Award for outstanding service to planetary science and exploration:
Benton C. Clark III, Space Science Institute. Ben Clark has been an active participant in at least 10 planetary missions, multiple Earth-orbiting missions, and a contributor to the early development of many more. His instruments and analysis redefined our understanding of Martian surface composition, highlighting the role of salts and the possible implications for astrobiology. He was a staunch advocate for science while working on virtually every planetary science spacecraft ever built at Martin Marietta / Lockheed Martin. This is not a task that has high visibility from the outside, but anyone who has been an instrument or mission principal investigator can tell you that it’s an extraordinarily important one. The scientific quality of many NASA planetary missions is due in large part to Clark’s behind-the-scenes efforts.

Carl Sagan Medal for outstanding communication by an active planetary scientist to the general public:
James Bell, Arizona State University. As a dynamic and popular speaker and as an author, Bell has been an outstanding spokesperson for the beauty and value of planetary science to people around the world. His heavy involvement in many NASA missions gives him the credibility and first-hand experience to convey how we humans explore the heavens. Jim’s beautiful pictorial books, such as “Postcards from
Mars,” bring exploration to the living rooms of many households. He has participated in many teachers’ workshops and also been a speaker for the Solar System Ambassadors Program. Jim’s involvement with The Planetary Society and other outreach organizations and programs has extended his influence with the public, not just in the United States, but around the world.

Jonathan Eberhart Planetary Sciences Journalism Award to recognize and stimulate distinguished popular writing on planetary sciences:
Emily Lakdawalla, The Planetary Society. Emily is a new media journalist who blogs every day about new discoveries and research in planetary sciences. Through her Planetary Society blog, Emily serves as an ambassador for planetary science working tirelessly to bring important issues and results from our community to a broader audience. The Eberhart Award honors her 2009 blog posting entitled “The Phoebe Ring.” This engaging and stimulating article sheds light on the discovery by astronomers using the Spitzer Space Telescope of a previously unseen ring around Saturn that shares the same orbit as its moon Phoebe.

The 2011 DPS prizes will be presented at the joint meeting of the DPS and the European Planetary Science Conference in Nantes, France, 3-7 October 2011:

3---------3---------3---------3---------3---------3---------3---------3---------3

REMINDER : EPSC-DPS 2011 JOINT MEETING :
DEADLINE 31 MAY FOR ABSTRACTS FAST APPROACHING
La Cité Internationale des Congrès Nantes Métropole
03 – 07 October 2011, Nantes, France


*Reminder: Late abstract deadline: June 30, 2011.
Late abstracts will be scheduled in a “Late Posters” session.

*Recent updates on the meeting website:
- Registration fees
- Workshops/splinter meetings
- A new *FAQ* page
- Meeting poster

The international planetary community is invited to submit an abstract for presentation of their recent work at the joint EPSC-DPS 2011 Meeting. The current list of 73 sessions is organized around the following topics:
TP Terrestrial Planets
GP Giant Planet Systems
MG Magnetospheres and Space Physics
MT Missions and Techniques
EO Exoplanets and Origins
AB Astrobiology
SB Small Bodies
PD Planetary Dynamics
LF Laboratory and Field Investigations
OEA Outreach, Education, and Amateur Astronomy

Please browse the list of sessions and identify the session that most closely matches your area of interest; your abstract can then be submitted directly to that session.
The session conveners, together with the Scientific Organizing Committee,
will finalize the science program shortly after the abstract deadline.

Travel funding will be available for students: EPSC will make a contribution to a large number of European PhD students to support their attendance; DPS will provide support to recipients of the Hartmann Student Travel Grant. Information on registration, accommodation, travel routes, visa requirements and social events will also become available shortly on the meeting web site.

Some specifications of the EPSC-DPS Joint meeting concerning abstracts, VISAs and other matters are posted on the web site. You may want to consult them before coming to the meeting.

Please forward this message to colleagues who may be interested.

Some specific sessions of the meeting are advertised hereafter, but please look at the whole meeting program to find the session best suited for your presentation:


Giant Planet Atmospheres and Interiors (GP1)

Recent observations of the gas and ice giants have revealed complex evolving atmospheric systems, from short term variability (impacts on Jupiter, mid-latitude storms on Saturn, discrete features on Uranus and Neptune), medium-term changes (the life cycle of Jupiter's South Equatorial Belt, seasonal storms on Saturn) and seasonally-induced hemispheric asymmetries and equator-to-pole contrasts on Saturn, Uranus and Neptune. Temporal variability within the weather layer may provide key diagnostics of processes occurring in regions inaccessible to remote sensing, within the deep troposphere and planetary interior. Abstracts concerning the present state of the neutral atmospheres (dynamics, chemistry and vertical structure); their temporal evolution and coupling to the planetary interior (internal structure, convection and interaction with the atmosphere) are particularly welcome, along with a discussion of future priorities for the exploration of giant planet atmospheres from ground- and space-based facilities.

Conveners: Leigh Fletcher, Glenn Orton, Patrick Irwin and Tristan Guillot

Titan's Interior, Surface, and Atmosphere and (Ex)Changes Therein (GP3)

Titan is the only moon in the solar system with a dense atmosphere and the only place besides Earth with stable liquids at its surface. This session focuses on the exchange processes between the interior and the atmosphere and how these processes have shaped Titan’s surface. The session welcomes abstracts describing observations, laboratory experiments and numerical simulations.

Conveners: A. Coustenis, C. Sotin, E. Turtle

Titan as a Prebiotic Chemical System (GP4/AB6)

The scope of this session is the past, present and future of Titan. This session will examine Titan as a system with the goal of trying to better understand the chemistry and potential for a prebiotic world. There are many questions to address. How did Titan form? What was the origin of its atmosphere? What is the source of methane and what is the timing of its outgassing to the surface? How much methane is present today in the surface-atmosphere system of Titan? How thick are the deposits of organic
materials, where are they in the Titan crust, and what is the extent of their further chemistry beyond stratospheric photochemistry toward complex organics of prebiotic interest? How has organic chemistry evolved over time on the surface of Titan, and is the evolution progressive or cyclic? Was Titan's surface much warmer in the past and what will conditions be like when the Sun becomes a red giant? What are the next appropriate steps in the exploration of Titan in terms of mission design and instrument techniques?

Conveneres: Patricia Beauchamp, A. Coustenis, J. I. Lunine

-----------------------------------------------
Small Bodies Session 4: Asteroids and NEAs (SB4)

The session will focus on the interrelation between the different populations of asteroids (main belt, Trojans) and near-Earth objects, with implications on their origin and physical properties. These interrelationships may be revealed through observational surveys (discovery and characterization) as well as through numerical modeling and/or experiments of physical processes (impacts, thermal effects, spin up/down and related shape changes and mass loss, etc …) that these bodies undergo during their evolution.

The deadline for abstract submission is May 31, 2011.

Please forward this announcement to all colleagues who may be interested in contributing to this session.

Convener: Patrick Michel
Co-conveners: Rick Binzel, Marco Delbo

-----------------------------------------------
Solar System Science from WISE (SB11)

We would like to invite all interested researchers to contribute abstracts to the "Solar System Science from WISE" session of the European Planetary Science Congress and Division of Planetary Sciences (EPSC-DPS) Joint Meeting 2011 to be held in Nantes, France, October 3rd-7th 2011. This session is part of the "Small Bodies" program group. With the recent public release of WISE data covering half of the inertial sky, a new era of thermal infrared study of small bodies has begun. This data set contains observations of everything from NEOs to Centaurs and beyond, while the full catalog includes nearly two orders of magnitude more objects than its predecessor, IRAS.

We encourage you to pass this message on to any interested colleagues and students.

Conveneres: A. Mainzer and J. Masiero

4---------4---------4---------4---------4---------4---------4---------4
DPS CHILDCARE SURVEY

Please follow the following link and fill out a childcare survey for DPS. It will take 5 minutes, at most. If you have ever, will ever, need now, or don't care at all about childcare, please fill out the survey! This is especially important for those of you who have had childcare issues impact your ability to travel. We will use the results of this survey to assess the type of support that the DPS can provide.


Thank you for your time!
Rachel Mastrapa, Majd Mayyasi
UPCOMING MEETINGS

1) International School of Aerospace Engineering Application.
The 2011 edition will take place from 4 to 8 July 2011 in Bertinoro, Forlì (FC) and will be dedicated to “Control Theory” and its applications in Aerospace Engineering.
Early registration deadline: May 27, 2011
Regular registration deadline: June 30, 2011
The school attendance is limited to 30 participants.
Registration forms shall be submitted to: roberta.poggi3@unibo.it

2) Magnetospheres of the Outer Planets (MOP) 2011 Meeting

11-15 July 2011 Boston University campus, Boston MA

http://www.bu.edu/csp/mop2011/

This conference was originally planned for Sendai, Japan. After the earthquake and tsunami, the Tohoku University organizing committee has agreed to postpone a meeting in Sendai until a future date. The Scientific Organizing Committee has agreed to hold this meeting on the same dates in Boston MA USA.

The meeting occurs about every 2 years, the last meeting was in Koln in summer 2009 <http://www.geomet.uni-koeln.de/mop-2009/home/?L=2>. The main topics are the magnetospheres of Jupiter and Saturn, and the upcoming meeting is expected to concentrate on results from the Cassini mission.

3) Attendance Survey: First Kepler Science Conference

If you are interested in attending the First Kepler Science Conference, please complete a short survey at: https://www.surveymonkey.com/s/TKSPKMG

The First Kepler Science Conference will be held 5-9 December 2011; hosted by the NASA Ames Research Center, Moffett Field, California. The conference will highlight the full range of scientific results that have emerged from more than two years of Kepler observations, as well as what to expect from continued observations. The meeting will consist of 9-10 half-day sessions, each session dedicated to a different topic. Topics will include:

-The Kepler Mission and Exoplanet Statistics
-Earth-analog and sub-Neptune-size Planets
-Multiple Planet Systems
-Exoplanet Theory
-Giant Planets and Planet Atmospheres
-Eclipsing and Interacting Binaries
-Stellar Activity
-Asteroseismology Across the HR Diagram
-Red Giant Oscillations
-Asteroseismology of Solar-type Stars

The conference website is: http://kepler.nasa.gov/Science/ForScientists/keplerconference/

Science Organizing Committee.
Dear Colleagues,

We plan to hold a Jupiter System mission science workshop, open to the community at ESTEC (to be confirmed) on the 31st August and 1st September 2011.

At this workshop we will describe the results from the study of the three different options (see details below), their science return and mission/spacecraft implications. Following your feedback at this workshop the Science Study team (SST) will then decide, which of the three options will become the new ESA Jupiter System mission.

The schedule is tight by necessity, since we need to submit a new draft Assessment Report (Yellow Book) to ESA by the end of October 2011.

You can express your intention to participate by sending an e-mail to Dima Titov (Dmitri.Titov@esa.int [10])

Please also find below an update on the status of the new study for a European led Jupiter system mission arising from the original EJSM-Laplace mission concept. We would highly appreciate your support in this activity that could be expressed in a number of ways, including suggestions to us and promotion of the mission within the science community.

Please do not hesitate to contact us and other SST members with your opinions, questions, concerns and ideas.

Best regards

Michele Dougherty and Olivier Grasset
(on behalf of the European Jupiter System Mission Science Study Team)
Dima Titov, ESA Study Scientist

---

ESA has recently announced a new approach to the L-class missions calling for re-formulation of all three L-missions into European-led concepts (http://sci.esa.int/science-e/www/object/index.cfm?fobjectid=48661 [11]).

Science Study Team: In mid-April ESA appointed the Science Study Team (SST) for the new Jupiter system mission concept (see the list given in the Appendix). Its major task is to re-formulate the science case, to re-structure the mission and to “study if and which of the original science goals of the EJSM-Laplace mission concept can be achieved by a European led mission”.

The SST mandate will terminate in February 2012. Dr. Joan Salute was nominated as NASA observer to the European SST.

Science case: The original EJSM-Laplace mission was focused on detailed investigation of Ganymede, Europa, and the Jovian system via the combination of the ESA-led JGO and NASA-led JEO spacecraft. Withdrawal of the NASA JEO contribution results in the loss of synergistic science in the Jovian system (atmosphere and magnetosphere) and JEO science at Europa. Thus, the re-formulation of the mission science case implies an attempt to partially recover the lost science goals within the framework of the European-led single spacecraft concept.

In the next several months SST will focus on the study of the following three options to recover the major science goals at Europa:
1. The present baseline JGO mission.
2. An optimized mission profile, incorporating some Europa science, at the expense of some previously planned science.

3. A mission focused on ocean research at Ganymede and Europa, with a reduced instrument payload.

Spacecraft, payload and mission scenario. The European element of the original EJSM-Laplace mission - Jupiter-Ganymede Orbiter (JGO) - went through an industrial assessment study and proved to be a highly valuable scientifically and technologically feasible mission.

In view of that, we emphasize that any re-formulation of the mission concept should most likely be based on the current JGO design, model payload and mission scenario with possibly moderate changes needed to recover some of the lost science goals.

The new mission should be affordable to the ESA Science Programme and the ESA Member States responsible for payload provision.

The mission should aim to launch in 2022.

Schedule of the mission re-formulation activity. The current schedule of the mission concept re-formulation aims at preparation of a draft of the new Yellow Book (Assessment Study Report) by the end of October 2011 which will be then reviewed by the ESA internal technical and programmatic review board. The final Yellow Book and the board report will be provided to the ESA Advisory Structure by the end of November. The entire activity aims at an SPC decision on L-missions in mid-February 2012. The nature of the SPC decision remains TBC pending the results of the re-formulation exercise and further discussions with SPC.

International cooperation. ESA encourages participation of international partners in the new European-led Jupiter system mission. However contributions from such partners should not be of a strategic, mission-enabling nature and should have a European back-up. In particular, NASA has confirmed its intention to support experiments onboard the new ESA-led Jupiter system mission. The experiments will be subject to selection within the framework of the ESA payload AO.

Jupiter system mission concept Science Study Team

Michele Dougherty (Imperial College, London, UK) M.Dougherty@imperial.ac.uk [12]
Olivier Grasset (Nantes Université, F) Olivier.Grasset@univ-nantes.fr [13]
Emma Bunce (Leicester University, UK) Emma.Bunce@ion.le.ac.uk [14]
Michel Blanc (E. Polytechnique, Palaiseau, F) Michel.Blanc@polytechnique.edu [16]
Andrew Coates (MSSL, UK) aic@mssl.ucl.ac.uk [17]
Angioletta Coradini (IASF Roma, I) Angioletta.Coradini@iasf-roma.inaf.it [18]
Pierre Drossart (LESIA, Paris Obs., Meudon, F) Pierre.Drossart@obspm.fr [19]
Leigh Fletcher (Oxford, UK) Fletcher@atm.ox.ac.uk [20]
Hauke Hussmann (DLR, Berlin, D) Hauke.Hussmann@dlr.de [21]
Ralf Jaumann (DLR, Berlin, D) Ralf.Jaumann@dlr.de [22]
Nobert Krupp (MPS, D) Krupp@mps.mpg.de [23]
Olga Prieto-Ballesteros (INTA, E) Prietobo@inta.es [24]
Paolo Tortora (Bologna University, I) Paolo.Tortora@unibo.it [25]
Federico Tosi (IASF Roma, I) Federico.Tosi@iasf-roma.inaf.it [26]
Tim Van Hoolst (ROB, Bruxelles, B) timvh@oma.be [27]

5) Asteroids, Comets, Meteors 2012
An International Conference on Small Solar System Bodies
May 16–20, 2012, Niigata, Japan

As you may know, the Asteroids, Comets, Meteors (ACM) 2011 meeting has been postponed to 2012 due to the disaster of the earthquake in eastern Japan, and the resulting problems with the nuclear power plants. The city of Niigata is far from both disasters, and the radiation is back to almost the same level as the natural origins. The trouble of the nuclear power plants is expected to be fixed in a stable
level within six to nine months. The LOC and SOC negotiated with many related societies and organizations, and decided to have the ACM on May 16–20 in the next year, namely 2012, at the same place planned in 2011.

Because we will restart the processes of registration and abstract submissions, we will reset these forms. We will refund the registration fee to individuals who already registered.

If you have already submitted an indication of interest form through the LPI/USRA meeting portal, you will remain on the subscription list. If you have not submitted an indication of interest form, and wish to do so at this time, go to:

https://www.lpi.usra.edu/meeting_portal/iofi/?mtg=acm2012 [28]
(Note that this requires logging into your account in the portal, or creating an account if you do not already have one)

Detailed information about the meeting and schedule will be updated at the new conference website:

http://chiron.mtk.nao.ac.jp/ACM2012/ [29]

If you have any questions, please do not hesitate to ask us by sending e-mail to:

ACM2011@pub.mtk.nao.ac.jp [30]
[14] mailto:Emma.Bunce@ion.le.ac.uk
[16] mailto:Michel.Blanc@polytechnique.edu
[17] mailto:ajc@mssl.ucl.ac.uk
[18] mailto:Angioletta.Coradini@iasf-roma.inaf.it
[20] mailto:Fletcher@atm.ox.ac.uk
[21] mailto:Hauke.Hussmann@dlr.de
[22] mailto:Ralf.Jaumann@dlr.de
[23] mailto:Krupp@mps.mpg.de
[24] mailto:Prietobo@inta.es
[25] mailto:Paolo.Tortora@unibo.it
[26] mailto:Federico.Tosi@iasf-roma.inaf.it
[27] mailto:timvh@oma.be
[28] https://www.lpi.usra.edu/meeting_portal/iofi/?mtg=acm2012
[30] mailto:ACM2011@pub.mtk.nao.ac.jp